DetectaChem

Accuracy, Mobility and Reliability

SEEKERe™

User Manual

www.DetectaChem.com

Made in the USA

WARNING!

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May 2015 Part number UM-SEEKERe-Rev1.5

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SEEKERe

The Models

SEEKERe MDK

Explosive and Drug Detection

SEEKERe EDK

Explosives Detection

SEEKERe

Specifications

Weight in Plastic **Weight in T6061 Aluminum**	176g (6.2oz or .38lbs) 280g (9.9oz or .62lbs)
Size (Millimeters) WxHxD **Size (Inches) WxHxD**	63 x 108 x 35 millimeters 2.4 x 4.25 x 1.4 inches
Screen	Full Color LCD 240x400
Battery	Internal Rechargeable Lithium Ion
Languages	All Languages Capable
Detection Type	Explosives and Drugs
Explosives Detected	Nitroaromatics, Nitramines, Nitrate Esters, HMEs, Inorganic Nitrates, Peroxides, Perchlorates, Chlorates and derivatives
Drugs Detected	Please visit www.DetectaChem.com for most up-to-date list of drug detection capabilities
Technology	Automated Colorimetrics
Environmental	Sealed, Waterproof, Ruggedized-Shockproof
Data Transfer Method	USB, Recordable CD-R, Encrypted Wireless
Storage capability	> 100,000 Tests

DetectaChem LLC
4100 Greenbriar Dr.
Suite 180
Stafford, Texas
77477
1-855-5-SEEKER
(1-855-573-3537)
Sales: sales@detectachem.com
Service: service@detectachem.com
www.DetectaChem.com

SEEKERe

The SEEKERe kit includes the following:

SEEKERe

USB Drive

Test Cards

USB Cord & Charger

International Charger Tips
(optional)

Testing Standards
(optional)

Lanyard
(optional)

SEEKERe

SEEKERe features:

SEEKERe Buttons:

Joystick

Left, Right, Up, Down, Select: Move with finger in direction or push in to select.

Power Button

Hold for 2 seconds for power prompt menu.
Hold for 10 seconds for FORCE SHUTDOWN.

Secondary Select Button

Push to select. (Same as joystick select)

Detection Test Cards

The sample Test Card is the tool that allows the user to physically collect a sample and is also the delivery mechanism for the colorimetric reagents required for detection.

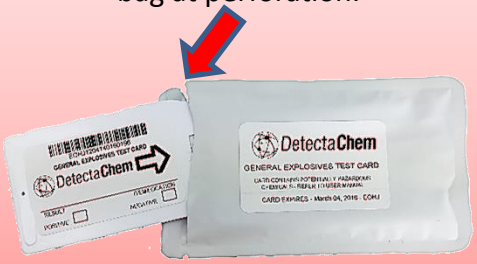
Detection Test Cards

The sample Test Cards are individually packaged and sealed to keep light and contamination out.

MIL-SPEC Sealed Bag

DetectaChem
GENERAL EXPLOSIVES TEST CARD
CARD CONTAINS POTENTIALLY HAZARDOUS CHEMICALS - REFER TO USER MANUAL
CARD EXPIRES - March 04, 2016 - EOHJ

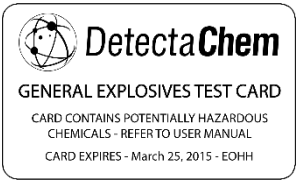
Remove the Test Card by tearing bag at perforation.

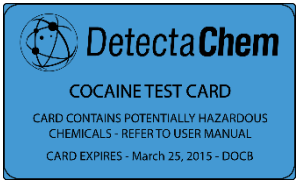


Test Cards should be stored in a cool dark place. See DetectaChem or reseller for more details regarding card storage.

Detection Swipe-Cards

Swipe-Card Warning Examples


DetectaChem
GENERAL EXPLOSIVES TEST CARD
CARD CONTAINS POTENTIALLY HAZARDOUS CHEMICALS - REFER TO USER MANUAL
CARD EXPIRES - March 25, 2015 - EOHH


DetectaChem
COCAINE TEST CARD
CARD CONTAINS POTENTIALLY HAZARDOUS CHEMICALS - REFER TO USER MANUAL
CARD EXPIRES - March 25, 2015 - DOCB

Swipe-Card Warnings

- DO NOT TOUCH THE CARD PAD AFTER USE
- DO NOT DIRECTLY INHALE VAPORS EMITTED FROM CARD DURING OR AFTER A TEST
- DO NOT PLACE CARD NEAR FLAME
- DISPOSE OF CARD PROPERLY AFTER TEST
- KEEP OUT OF REACH OF CHILDREN

Detection Swipe-Cards

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Sampling

Correct sampling is critical for accurate test results. In order to perform a credible test, particles from a test surface must be collected on the collection pad.

How to Hold the Card:

- Hold Test Card with index finger directly behind collection pad
- Grip the edges with thumb and remaining fingers.

Sampling

For the best results, use at least 5 pounds of pressure when swabbing!

Make direct contact with surface or substance to collect particles onto the collection pad.

When sampling a visible substance, make sure to make direct contact between the substance and collection pad.

Sampling

Non-Visible "Trace" Sampling:

- Hold card correctly
- Apply firm pressure to pad onto the surface
- Recommended to cover surface in a zig-zag pattern
- Cover entire surface

Bulk Sampling:

- Hold card correctly
- Apply firm pressure
- Crush sample into pad and twist
- "Tap" card onto surface to remove excess loose particles

Q-Tip Method Sampling:

- You may choose to transfer particles from surface with a Q-Tip
- Gather particles with Q-tip
- Rub into card pad firmly

Running a Test

1. Remove the Test Card from the bag

2. Hold the Test Card Correctly:

Index finger behind the pad, grip with fingers

3. Swab using the appropriate swab method

Running a Test

4. Power on the device by pressing the power button for 2 seconds

5. Select “Run Test” on the main screen

6. Scan the barcode on the test card

7. Insert the test card into the SEEKERe

Running a Test

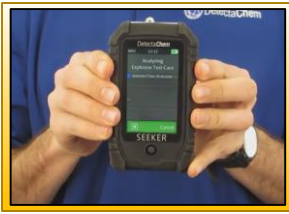
8. Wait for the system check to complete.

Hold Device Upright!

9. Locate the crusher on the back of the device.

10. Crush Card.

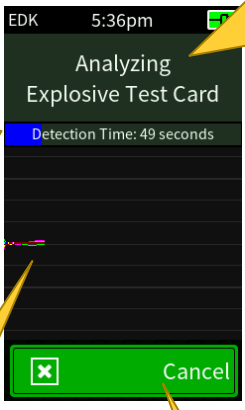
Place two fingers on the top of the crusher and your palms on the front of the device. Squeeze hard for 1 second and release.



11. Test will initiate. Hold device upright for entire test.

Running a Test

Running Test Screen



Countdown timer shows the maximum amount of time left until the test completes.

Top section shows which card is currently being ran.

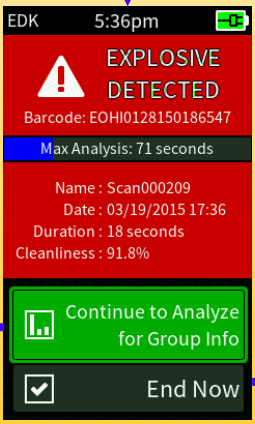
The plot displays the color response on the pad over time.

Cancel Button will cancel the test when pushed.

Running a Test

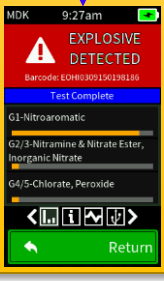
Running a Positive Test on the *GENERAL EXPLOSIVE TEST CARD*

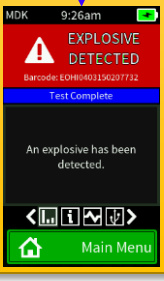
Test will report when an Explosive is Detected



Option 1: Continue to analyze further and gather group Data

Option 2: End test now without group info

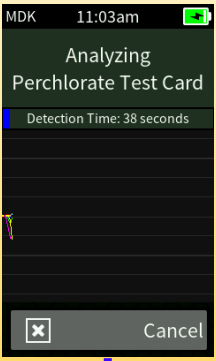


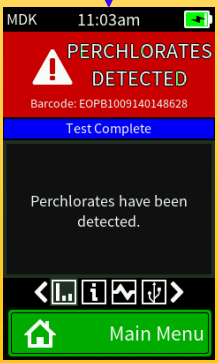


Running a Test

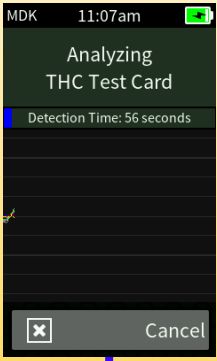
Running a Positive Test for All Other Card Types

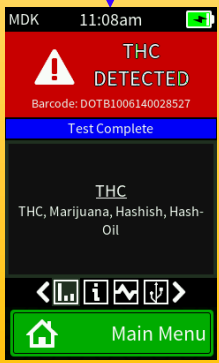
Example:
Perchlorate
Test Card





Example:
THC
Test Card

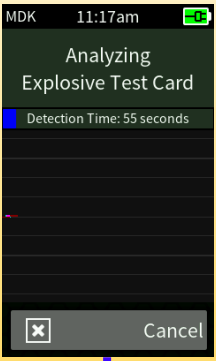




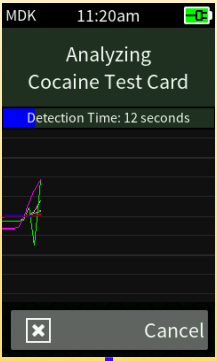
Running a Test

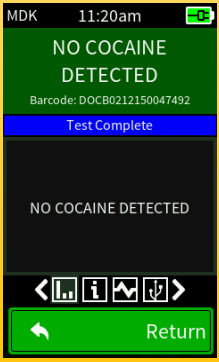
Running a Negative Test for All Card Types

Example:
General Explosives
Test Card



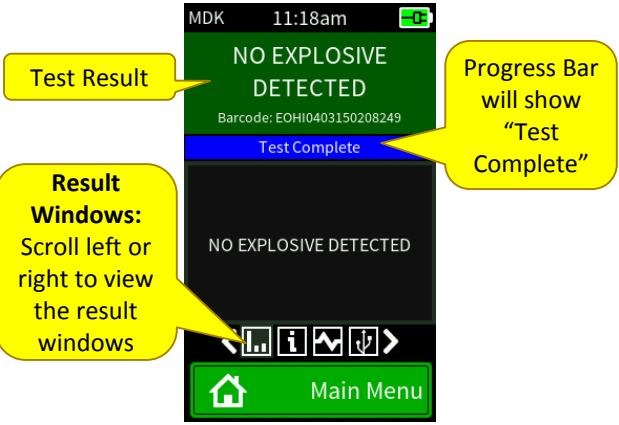
Example:
Cocaine
Test Card



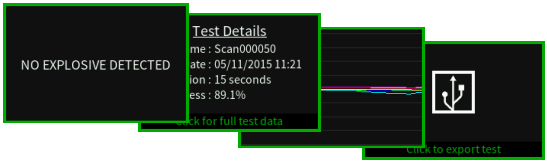


Results

Result Screens- Negative Tests

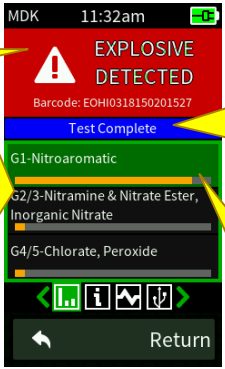


Result Windows:
You can scroll through the result windows to view different data from the tests such as: Test data, test plot, export options, GPS, etc



Results

Result Screens- Positive Tests – *General Explosive Test Card Only*



Test Result

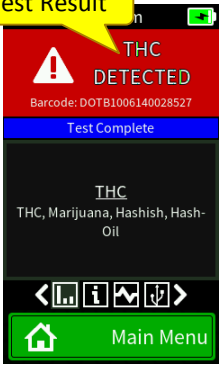
Group Info: Bar graph will show the group analysis collected. The bars represent the confidence factor of each explosive grouping.

Progress Bar will show "Test Complete"

****You may click on each bar to show the explosive definitions****

Result Screens- Positive Tests

Test Result



Result Windows: Result Windows will display test data such as: Test data, test plot, export options, GPS, etc

Results

Explosive Test Cards

General Screening Explosives Test Card: G(1,2/3,4/5)

Group 1 (Nitroaromatics)

- Ex. TNT, TNB, DNT, DNB, Tetryl

Group 2 (Nitramines & Nitrate Esters)

- Ex. HMX, RDX, PETN, Nitroglycerin, EGDN, Pyrodex, Gunpowder, Semtex

Group 3 (Inorganic Nitrates)

- Ex. Ammonium Nitrate, Urea Nitrate

Group 4 (Chlorates)

- Ex. Sodium Chlorate, Potassium Chlorate

Group 5 (Peroxides)

- Ex. TATP, HMTD

Perchlorate Detection Test Card:

- Ex. Potassium Perchlorate, Ammonium Perchlorate

Ammonium Detection Test Card: Ammonium

Urea Nitrate Detection Test Card: Urea Nitrate

Nitrate/Nitrite Detection Test Card: Nitrate, Nitrite

Plus hundreds of derivatives, combinations, and variants.

Contact DetectaChem for more information.

Results

Drug Test Cards

General Screening Drugs: Opiates Detection Test Card

Ex. Amphetamine, Benzphetamine, Chlorpromazine, Codeine, Diacetylmorphine, Dimethoxy-meth, Doxepin, Dristan, Heroin, LSD, MDA, Meperidine, Mescaline, Methadone, Methamphetamine, Methylphenidate, Morphine monohydrate, Opium, Oxycodone, Propoxyphene

Cocaine Detection Test Card: Cocaine

Meth Detection Test Card: Ex. Dimethoxy-meth, MDMA, Methamphetamine, Methylphenidate, Ecstasy

THC Detection Test Card: Ex. THC, Marijuana, Hashish, Hash-Oil

Ketamine Detection Test Card: Ex. Ketamine, Cocaine

Synthetic Cannabinoids Test Card: JWH-018, JWH-073, JWH-200, AB-001, AM-2201, RCS-4, RCS-8, XLR-11 and UR-144

Fentanyl Detection Test Card: Ex. Fentanyl, Heroin, Morphine, Buprenorphine, Oxycodone, Codine, and more.

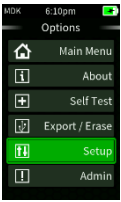
For the most current list visit: www.DetectaChem.com

Software/Menus

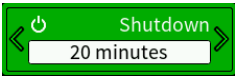
Software/Menus

"*Setup*" Menu Options

- Main Menu
  - Options
    - **Setup Menu**



Dim Screen: Time until the screen dims



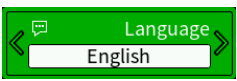
Shutdown: Time until the device automatically powers down

Brightness: Adjust the screen brightness

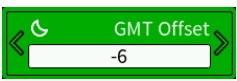
Group Analysis: Enable/Disable the option to collect group analysis data on the General Explosive Test Card. If this option is disabled the test will only show Explosive Detected or No Explosive Detected (no bar graph).

Scanning Plot: Show/Hide the plot displayed on the testing screen

Audible Beep: Enable/Disable the beep on the device



Language: Change the language of the device



GMT Offset: Set the current timezone on the device

Software/Menus

"*Admin*" Menu Options

- Main Menu
  - Options
    - **Admin Menu**

Update from USB: Allows update of the device software via an external USB drive. You must have a ".dchem" update file on the drive

Date/Time: Change the current set Date/Time on the device

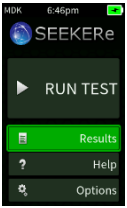
GPS: Enable/Disable GPS functionality

GPS Live Data: Shows real-time GPS data. (You must have GPS enabled)

Disable Side Button: Enable/Disable the secondary select button on the side of the device

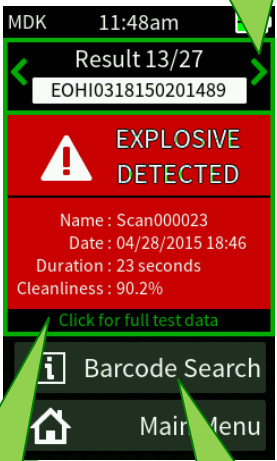
Software/Menus

Results Menu



Quickly view the tests saved on the device.

Scroll **left or right** to see the next or previous ran test.

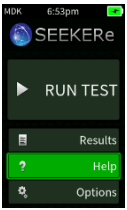


Click in to view entire test data

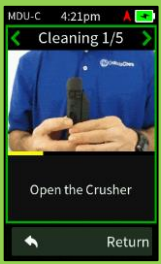
Look up a previous ran test by scanning the barcode on the test card.

Software/Menus

Help Menu

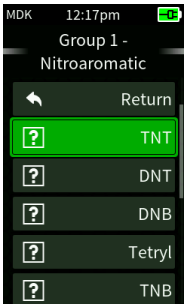


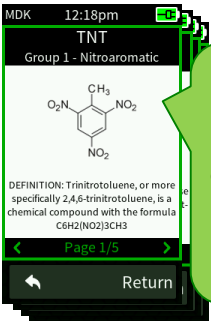
Watch real videos on the SEEKERe, that help with sampling, testing, cleaning, etc.



Enable/Disable the Welcome Screen that turns on when you boot the device.

Detailed Explosive Definitions

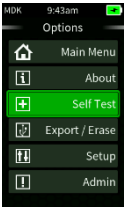



MDK 12:18pm
TNT
Group 1 - Nitroaromatic
DEFINITION: Trinitrotoluene, or more specifically 2,4,6-trinitrotoluene, is a chemical compound with the formula C6H2(NO2)3CH3
Page 1/5
Return

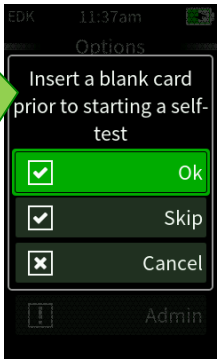
Find detailed information of some of explosives detected by the SEEKERe. Scroll right/left for more information.

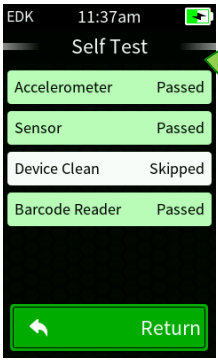
Software/Menus

Self Test Menu



Self test will ask you to insert a blank test card before starting the test. You may choose to skip this step.

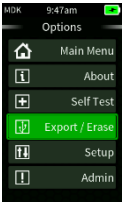


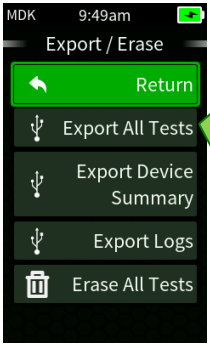


Self Test will test functionality of many of the hardware features on the device.

Software/Menus

Export / Erase Menu





Export/Erase menu has many functions to get files off the SEEKERe. You will need a USB Flash drive in order to do so. Plug in the USB drive into the SEEKERe USB port before exporting.

Export All Tests: You may choose to export only the test data files or built and export test reports as well.

Export Device Summary: Export a summary list of all the tests on the SEEKERe.

Export Logs: Export the system logs for system debug. (Factory use only)

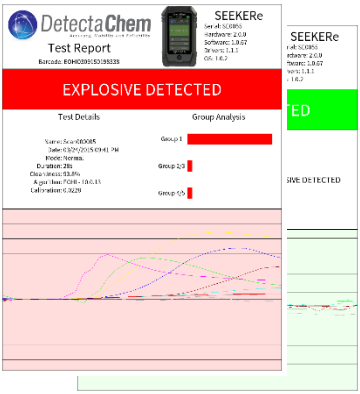
Erase All Tests: Erase all tests stored on the device. (will require reboot)

Software/Menus

Test Reports

- Test reports are generated on the device and may be exported to a USB stick for viewing on a computer.
- You can export a report on an individual test or go to the Export/Erase menu and export all test reports.

Individual Test Reports



Device Summary Report

Software/Menus

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Software/Menus

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Tips/Troubleshooting

Tips:

- How does it detect?
  - ✓ Answer: Uses an array of optical sensors to look for colorimetric reactions from the sample collected on the card test pad.
  - ✓ DetectaChem has developed proprietary algorithms that run on the device. Using advanced mathematics, the device takes into account many variables to make a determination including color magnitude and hue, speed of reaction, slope/derivative of color formation, color location, speed of chemical flow, temperature, inclination, timing, etc.
- What does the line plot mean?
  - ✓ Answer: The line plot is displaying one of the many algorithms on the device. This plot represents color magnitude.
- What does "Cleanliness" in the test data mean?
  - ✓ Answer: Cleanliness is the percentage clean that the card pad of the test card is before a test. The more dirty the pad the lower the percentage.
- How do I generate test reports?
  - ✓ Answer: A test report is generated when you export a test. Or you may choose to go to the Export/Erase menu and export all test reports.
- How do I export with WIFI, Bluetooth, or GMS/CDMA?
  - ✓ Answer: These functions require an external dongle adapter to work. Contact your local reseller or DetectaChem directly.
- How long are the tests?
  - ✓ Answer: Detection times vary by test type. (Min 5 seconds to max 60 seconds)

Tips/Troubleshooting

Tips:

- How can I tell when the Detection Swipe-Card I want to run was manufactured?
  - ✓ Answer: The expiration date can be found on the card bag label. “CARD EXPIRES – Month Day, Year”
- Does the SEEKERe need manual calibration?
  - ✓ Answer: The Seeker automatically calibrates prior to each test and there is no manual calibration required.
- How many tests can be run with each detection swipe-card?
  - ✓ Answer: Each swipe-card can be used one time.
- How can I view examples of different explosives that are in each group?
  - ✓ Answer: After a positive detection, the user may choose to analysis for group info, then the user may click on the bars in the bar graph for group.
  - ✓ Answer: The user can manually view the glossary at anytime by navigating to the Help Menu then selecting Explosive Definitions.
- Does the Seeker need cleaning after a positive result?
  - ✓ Answer: The Seeker does not need to be cleaned after a positive result. The user may choose to inspect the cavity to ensure clean. To verify, the user can run a blank card to ensure a No Detection result.
- How long does the Seeker take to fully charge?
  - ✓ Answer: 2.5 Hours
- How can I tell if the Seeker is charging?
  - ✓ Answer: The battery level indicator located in the top right corner of the display screen will show a lightning bolt when charging.

Tips/Troubleshooting

Troubleshooting:

- Error: No GPS data
  - ✓ Solution: Enable GPS in the admin menu. Move to an outdoor location that has a clear and visible view of the sky. Wait until the satellite icon on the top of the screen shows a signal and turns from red to green.
- Error: SEEKERe will not read the barcode on a Test Card
  - ✓ Solution: Increase the distance between the SEEKERe barcode scanner and the barcode on the test card.
  - ✓ Clean the barcode window.
- Error: SEEKERe display reads “Please Hold Upright" when running a test
  - ✓ Solution: Be sure to hold the SEEKERe upright while testing. If the SEEKERe is being held upright and the screen still shows a “Please Hold Upright” message then please contact your reseller or DetectaChem for instructions.
- Error: “Card has expired” message appears when the Detection test card is scanned
  - ✓ Solution: The test card has expired. Contact your local reseller or DetectaChem to order new test cards.
- Error: Card Removed Early
  - ✓ Solution: Be sure that the SEEKERe is held upright during testing, the test card is firmly inserted into the SEEKERe , and that the test is complete before removing the swipe-card.
- Error: Card Too Dirty
  - ✓ Solution: The sample surface was dirty and the test card picked up an excessive amount of the dirt. Take a new sample with a new test card and try again.

Tips/Troubleshooting

Troubleshooting:

- Error: Results are displaying incorrect time
  - ✓ Solution: Set the SEEKERe to the local time (See Menus-Setup-UTC Offset)
- Error: SEEKERe software is frozen or slow to respond
  - ✓ Solution: Hold the power button for 10 seconds until the device turns off, then reboot. If problem persist contact your reseller or DetectaChem.
- Error: The SEEKERe will not turn on
  - ✓ Solution: Plug the SEEKERe in with the USB wall charger. (It will boot when powered)
- Error: The SEEKERe shuts off or screen goes dim
  - ✓ Solution: Adjust your shutdown/dim timers in the setup menu
- Error: The test does not start upon card break
  - ✓ Solution: Repeat with a new card, ensure to squeeze with force on the top of the crusher.

Cleaning/Maintenance

Cleaning the SEEKERe

Open the SEEKERe by pulling on the back flap to expose the card insertion and optical array.

It is important that the optical area is clean and the lens is clear.

Alcohol Wipe: Wipe down with alcohol or cleaning wipe.

Spray: Spray area with water or alcohol cleaning spray, then wipe clean.

Q-Tip: Use a Q-tip to clean the optical area.

Barcode Window: Use a Q-tip to clean the barcode window.

Limited Warranty

LIMITED WARRANTY

This DetectaChem product is warranted to be free from defects in materials or workmanship for one year from the date of purchase. Within this period, DetectaChem will, at its sole option, repair or replace any components that fail in normal use. Such repairs or replacement will be made at no charge to the customer for parts or labor, provided that the customer shall be responsible for any transportation cost. This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alteration or repairs.

This product is intended to be used only as a detection aid and must not be used for any other purpose. DetectaChem makes no warranty as to the accuracy or completeness of this product.

THE WARRANTIES AND REMEDIES CONTAINED HEREIN ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY LIABILITY ARISING UNDER ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, STATUTORY OR OTHERWISE. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, WHICH MAY VARY FROM STATE TO STATE.

IN NO EVENT SHALL DETECTACHEM BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE, OR INABILITY TO USE THIS PRODUCT OR FROM DEFECTS IN THE PRODUCT. SOME STATES DO NOT ALLOW THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DetectaChem retains the exclusive right to repair or replace the unit or software or offer a full refund of the purchase price at its sole discretion. SUCH REMEDY SHALL BE YOUR SOLE AND EXCLUSIVE REMEDY FOR ANY BREACH OF WARRANTY.

To obtain warranty service, contact your local DetectaChem authorized dealer, authorized representative, or call DetectaChem Product Support for shipping and return instructions. Securely pack the unit and a copy of the original sales receipt, which is required as the proof of purchase for warranty repairs. Send the unit, freight charges prepaid, to any DetectaChem warranty service division.

International Purchases: A separate warranty is provided by international distributors for units purchased outside the United States. This warranty is provided by the local in-country distributor and this distributor provides local service for your unit. Distributor warranties are only valid in the area of intended distribution. Units purchased in the United States must be returned to the DetectaChem service center in the United States.

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Contact Information

DetectaChem LLC

4100 Greenbriar Dr.
Suite 180
Stafford, Texas
77477
1-855-5-SEEKER
(1-855-573-3537)
Sales: sales@detectachem.com
Service: service@detectachem.com
www.DetectaChem.com

Made in the

USA

www.DetectaChem.com